

Integrated circuit package with improved heat dissipation

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Abstract

A leadframe that exhibits improved thermal dissipation and that can be incorporated into standard integrated circuit (IC) packages is provided by widening the inner lead portions (26) with respect to the outer lead portions (24) and extending them along a major surface of the IC (28). In the preferred embodiment, the wide inner lead portions (26) cover at least 80 percent of the IC surface and also support the IC (28), eliminating the need for a leadframe paddle. The wide inner lead portions (26) are more efficient at conducting heat away from the IC (28) than prior "standard" width inner lead portions because of the increased thermal contact area between them and the IC (28). Heat from the IC (28) is conducted to the outside of the package via the leads (22) and into the circuit board on which the IC package is mounted. Added thermal dissipation is achieved by making the inner portion (44) of a ground lead (42) wider than the inner portion (26) of any other lead (22). In addition, existing IC package designs that utilize the present leadframe structure can accommodate larger ICs than before because the present leadframe structure has no leadframe paddle to limit the IC (28) size.

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